

CLAIMS

What is claimed is:

- 1 1. A hand-held computing device for providing communication services and symbol
2 processing comprising:
3 a case having a front side, a back side, and a user input device;
4 the case enclosing control logic for providing communication services and control
5 logic for performing symbol processing;
6 a display located on the front side of the case; and
7 a lid having a transparent portion, the lid being connected to said front side; said
8 lid extending over the display in a lid closed state, the user input device being physically
9 accessible for receiving input in the lid closed state.
- 1 2. The device of claim 1 wherein said front side further has a QWERTY keyboard,
2 the lid extending over the keyboard in the lid-closed state.
- 1 3. The device of claim 1 wherein the display is a touch-sensitive display.
- 1 4. The device of claim 1 wherein the display is a color display.
- 1 5. The device of claim 1 wherein a speaker is located in the lid, the speaker being
2 coupled to the control logic for providing communication services.
- 1 6. The device of claim 1 wherein the control logic for providing communication
2 services includes a radio module for providing radio communications.
- 1 7. The device of claim 6 wherein the radio module provides voice communication
2 functionality.
- 1 8. The device of claim 2 wherein the QWERTY keyboard comprises a touch-tone
2 telephone keypad arrangement of keys representing the symbols "0" to "9".

1 9. The device of claim 8 wherein one or more of the keys associated with a symbol
2 in the telephone keypad arrangement has a telephone keypad key indicator.

1 10. The device of claim 2 wherein input from the keyboard is disabled in the lid
2 closed state, a repeat functionality for the user input device is disabled in the lid closed
3 state, and a timeout setting for receiving indication of further activation of the device is
4 shorter in the lid-closed state than in the lid-open state.

1 11. The device of claim 1 wherein the case further comprises a first side and wherein
2 the user input device is a jog rocker located on the first side.

1 12. The device of claim 1 wherein the user input device is an application button
2 located on the front of the case.

1 13. The device of claim 1 further comprising a top part and a bottom part and a
2 stylus holder, the holder having an upper portion in the top part of the case and extending
3 within the case toward the bottom part, the upper portion of the stylus holder having a
4 rim having a first downward slope for causing a lip of a stylus having a second downward
5 slope to slide along the rim transforming rotary motion of the stylus into a linear motion
6 of the stylus within the holder.

1 14. The device of claim 1 further comprising:
2 a door in the case, said door having a holder for an identification card; and
3 a card detector unit within the case for detecting the presence of the identification
4 card.

1 15. The device of claim 1 wherein the display further includes a handwriting area for
2 data entry.

1 16. In a hand-held computing device for providing communication services and
2 symbol processing, the device comprising a case having a front side and a user input
3 device, the front side comprising a display and a lid comprising a transparent portion, the
4 lid being connected to the front side and extending over the display in a lid closed state,
5 the user input device being physically accessible for receiving input in the lid-closed
6 state, a method for processing input responsive to transitions in the lid state, the method
7 comprising:

8 detecting a transition from the lid-closed state to a lid-open state wherein the
9 device is in a device power-save state;

10 transitioning the device from the device power-save state to a device power-on
11 state; and

12 launching an application.

1 17. The method of claim 16 wherein the application is a telephone application.

1 18. The method of claim 16 further comprising:

2 responsive to being in the device power-on state and detecting a transition from
3 the lid-open state to the lid-closed state, transitioning the device from the device power-
4 on state to the device power-save state.

1 19. The method of claim 17 further comprising wherein the device is in the device
2 power-on state and the lid-open state:

3 receiving an incoming call notification;

4 detecting a transition from the lid-open state to the lid-closed state after a
5 notification time period for an incoming call; and

transitioning the device from the device power-on state to the device power-save state.

20. The method of claim 17, wherein the device is in the device power-on state and the lid-open state, the method further comprising:

processing an active call during a hands-free attachment state;

detecting a transition from the lid-open state to the lid-closed state;

transitioning the device from the device power-on state to the device power-save state; and

maintaining the active call until receiving direction to end the call.

21. The method of claim 17, wherein the device is in the device power-on state and the lid-open state, the method further comprising:

processing an active call during a no-hands-free attachment state;

detecting a transition from the lid-open state to the lid-closed state;

ending the active call; and

transitioning the device from the device power-on state to the device power-save state.

22. In a hand-held computing device for providing communication services and symbol processing, the device comprising a case having a front side and a user input device, a display located on the front side, and a lid being connected to the front side, the lid having a transparent portion, the lid extending over the display in a lid closed state, the user input device being physically accessible for receiving input in the lid-closed state, a method for processing input from the user input device in the lid-closed state, the method comprising:

responsive to receiving input indicating activation of the user input device,
transitioning the device from a device power-save state to a device power-on
state;
launching an application; and
displaying a view of the application on the display.

23. The method of claim 22, wherein the user input device is an application button
located on the front side of the device, the application button being physically accessible
for receiving input in a lid-closed state wherein the method further comprises:
receiving input indicating activation of an application button;
launching an application associated with the button; and
displaying a view of the application associated with the button on the display.

24. The method of claim 22, wherein the case further comprises a first side and the
user input device is a jog rocker located on the first side of the case, the jog rocker being
physically accessible for receiving input in a lid-closed state wherein the method further
comprises:
receiving input indicating activation of the jog rocker;
performing a function associated with the jog rocker; and
updating a view in accordance with performing the function.

25. A hand-held computing device comprising:
a case having a front side having a QWERTY keyboard, the keyboard comprises a
touch-tone telephone keypad arrangement of keys representing the symbols "0" to "9".

26. The device of claim 25 wherein one or more of the keys associated with a symbol
in the telephone keypad arrangement has a telephone keypad key indicator.

1 27. The device of claim 25 wherein a row of the QWERTY keyboard includes a key
2 representing the “*” symbol next to a key of the telephone keypad arrangement.

1 28. The device of claim 25 wherein a row of the QWERTY keyboard includes a key
2 representing the “#” symbol next to a key of the telephone keypad arrangement.

1 29. The device of claim 25 wherein keys of the QWERTY keyboard are each slanted
2 in the same direction.

Variable	Mean		SD		t		p	
	Control	Case	Control	Case	Control	Case	Control	Case
Age	30.5	30.5	10.5	10.5	0.0	0.0	0.999	0.999
Gender	15	15	0	0	0.0	0.0	1.000	1.000
Education	12.5	12.5	1.5	1.5	0.0	0.0	0.999	0.999
Occupation	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Income	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Marital status	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Religion	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Health status	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Family size	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Urban/rural	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Weather	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of year	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Time of day	1.5	1.5	0.5	0.5	0.0	0.0	1.000	1.000
Season	1.5	1.5	0.5	0.5				